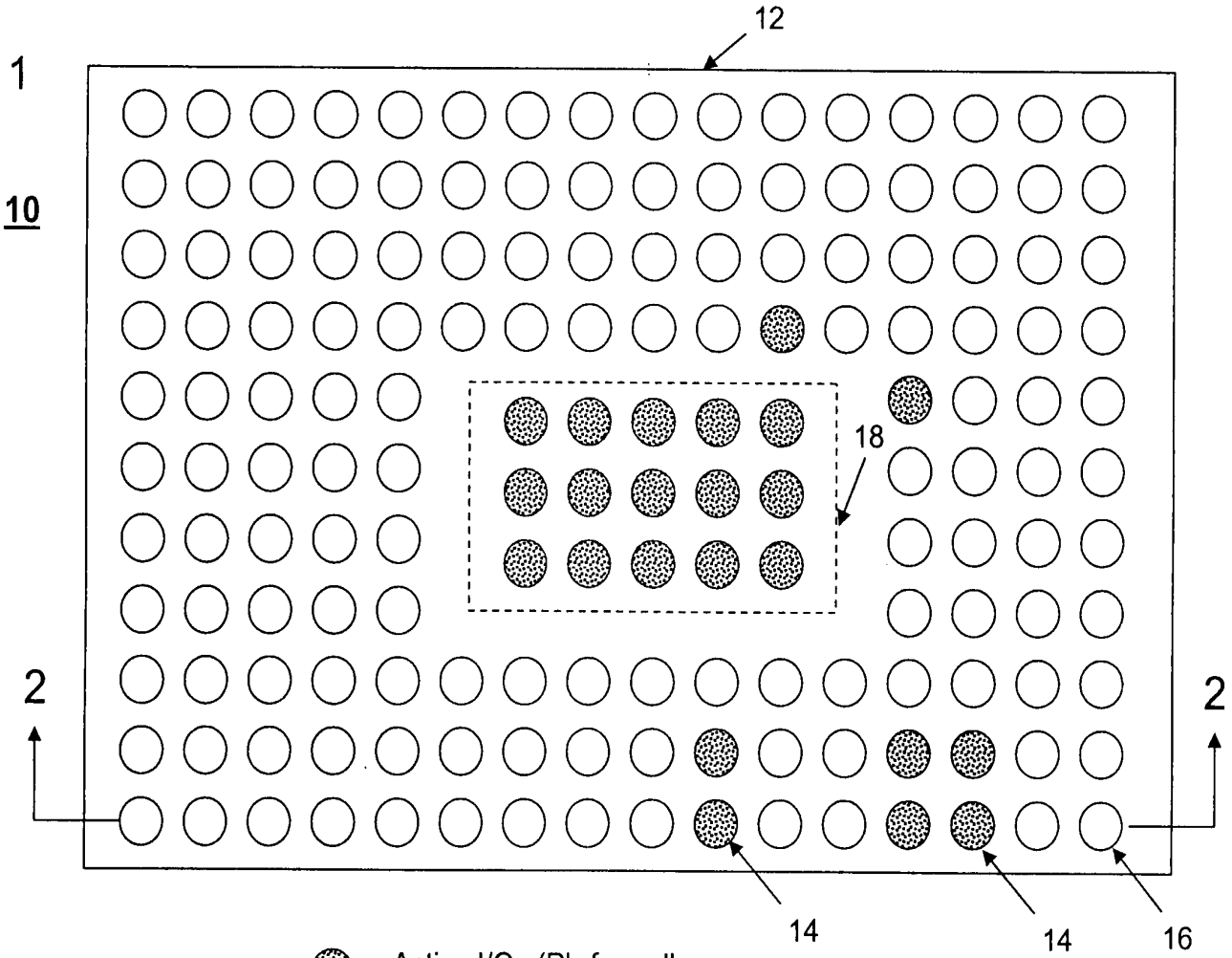
FIG. 1


12
10
18
2
2
14
14
16
Active I/Os (Pb-free alloy composition)
Ground Pads (Low melting point alloy composition)

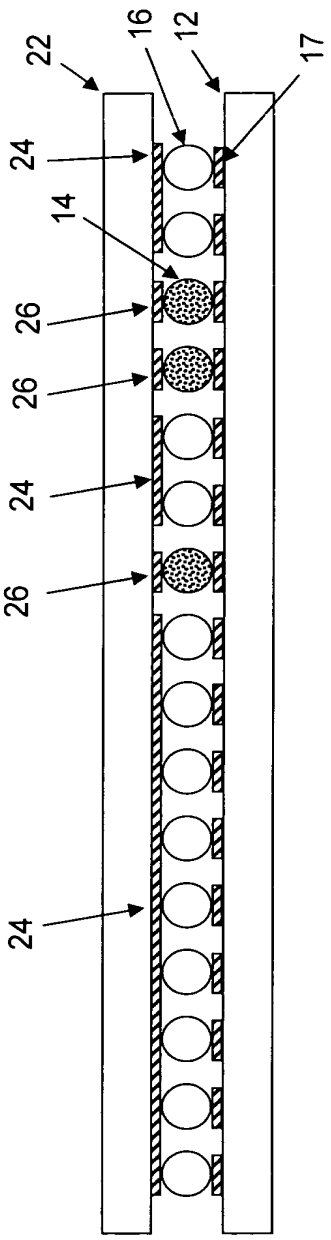


FIG. 2

20

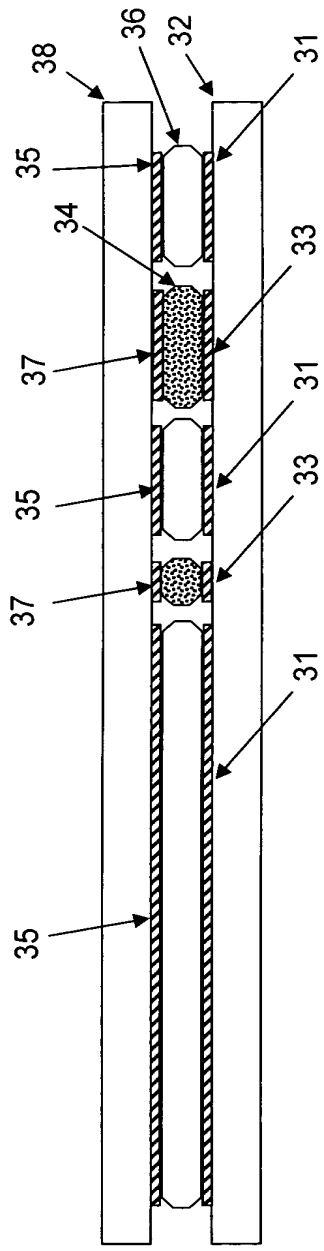
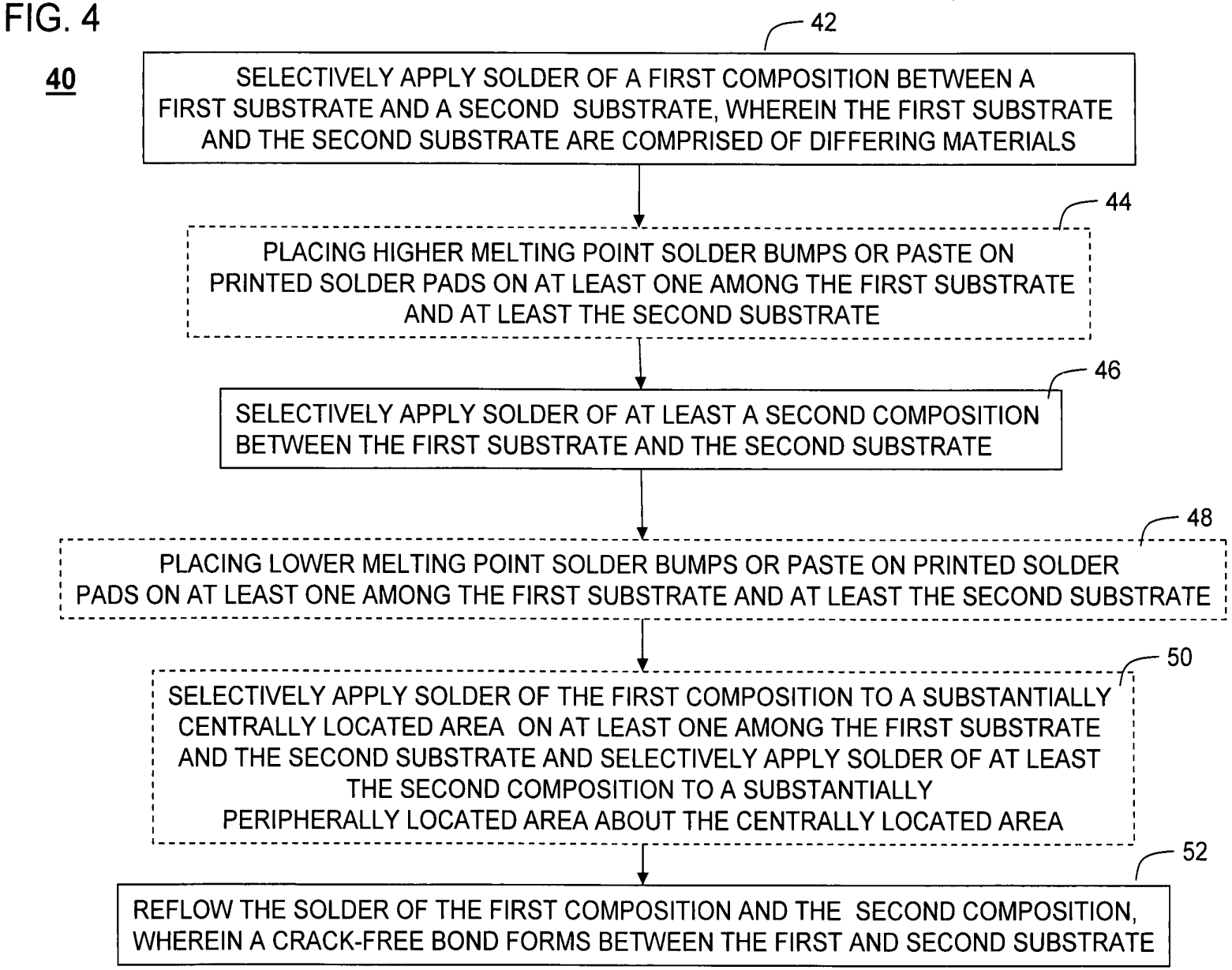


FIG. 3

30

FIG. 4


40
42
SELECTIVELY APPLY SOLDER OF A FIRST COMPOSITION BETWEEN A FIRST SUBSTRATE AND A SECOND SUBSTRATE, WHEREIN THE FIRST SUBSTRATE AND THE SECOND SUBSTRATE ARE COMPRISED OF DIFFERING MATERIALS
44
PLACING HIGHER MELTING POINT SOLDER BUMPS OR PASTE ON PRINTED SOLDER PADS ON AT LEAST ONE AMONG THE FIRST SUBSTRATE AND AT LEAST THE SECOND SUBSTRATE
46
SELECTIVELY APPLY SOLDER OF AT LEAST A SECOND COMPOSITION BETWEEN THE FIRST SUBSTRATE AND THE SECOND SUBSTRATE
48
PLACING LOWER MELTING POINT SOLDER BUMPS OR PASTE ON PRINTED SOLDER PADS ON AT LEAST ONE AMONG THE FIRST SUBSTRATE AND AT LEAST THE SECOND SUBSTRATE
50
SELECTIVELY APPLY SOLDER OF THE FIRST COMPOSITION TO A SUBSTANTIALLY CENTRALLY LOCATED AREA ON AT LEAST ONE AMONG THE FIRST SUBSTRATE AND THE SECOND SUBSTRATE AND SELECTIVELY APPLY SOLDER OF AT LEAST THE SECOND COMPOSITION TO A SUBSTANTIALLY PERIPHERALLY LOCATED AREA ABOUT THE CENTRALLY LOCATED AREA
52
REFLOW THE SOLDER OF THE FIRST COMPOSITION AND THE SECOND COMPOSITION, WHEREIN A CRACK-FREE BOND FORMS BETWEEN THE FIRST AND SECOND SUBSTRATE